Best Practices In Perishable Goods Transport

Critical Research Insights
Introduction And Overview

This report is presented to those who participated in our research study, giving generously of their time, knowledge and experience to expand our understanding of this increasingly important segment of air commerce.

Introduction
From April through August of this year the Colography Group conducted a survey of best practices related to the importation, handling and marketing of perishable commodities at a variety of airports throughout the United States. This report summarizes the research and findings arising from this study, and is presented to those who participated in our study, giving generously of their time, knowledge and experience to expand our understanding of this increasingly important segment of air commerce.

Overview
In 2013, the importation of perishable commodities into the U.S. by air totaled 801 thousand metric tonnes, accounting for 21% of total U.S air import tonnage for that year (3.8 million tonnes). In contrast to non-perishable commodities – and to the air import market in its entirety - the U.S. perishable air import market has grown at a compound annual rate (CAGR) of 4.2% over the past 5 years (2008-2013). During the same period, non-perishable air import tonnage declined -1.5% and U.S. air import tonnage generally declined -0.4%. Significantly, the most recent data for 2012 to 2013 indicates that perishables import growth is accelerating: Y-O-Y total perishables growth in this period was 50% higher, 6.3%, than the compound average for 2008-13.

For the purposes of this report, the perishable market has been segmented into three categories: 1) cut flowers & foliage; 2) consumables, i.e., produce, meat and seafood; and 3) all other perishables, including pharmaceuticals, seeds and live plants among others. As Figure 1 indicates, the majority of perishable imports are consumables at 55%, followed by flowers & foliage at 25% and other perishables at 20%.
Characteristic of perishable trade, generally time is the most critical factor, and for this reason so, too, is distance. Therefore, it should come as no surprise that 71% of all U.S. perishables air import tonnage originates from points south of the United States (see Figure 2). The overwhelming preponderance, 62%, is imported from South America – principally from Colombia, Ecuador, Peru and Chile. Central America and the Caribbean perishable imports account for another 9%. The closest origins to the U.S., Mexico and Canada, collectively account for less than 3% of air tonnage, but they have the ability to export significant volumes of perishables to the U.S. using surface transport, primarily trucking. Thus, their share of air imports is not commensurate with their share of perishable trade generally.
Best Practices

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Best Practices
The Colography Group’s study of the perishable market is based in large part upon dozens of interviews conducted with a variety of entities engaged in the perishables business – airport management, Federal Inspectors, airlines, freight forwarders, cargo handlers, truckers and perishable center specialists – at several airports throughout North America.

How perishable cargo is handled at its origin is of paramount importance: if the proper packaging, pallet build-up, pre-cooling, etc. procedures are not adhered to from the outset, the chances of problems arising later are significantly increased, and the ability of handlers at an intermediary or destination point to remedy problems becomes increasingly more difficult with the passage of time. Nevertheless, the focus of this study is on what happens to perishable cargo subsequent to its arrival in the U.S., and how to maintain the integrity of the cool chain from arrival of the aircraft to final delivery.

Accordingly, for the purposes of this report, the perishables import process involves 4 activities:

- Unloading
- Perishable Center
- Inspection
- Ground Transport

Unloading
For many locations in the U.S., the handling of perishable cargo is like fitting a square peg into a round hole – perishable cargo is moved through a system designed for the dry cargo world in which care in handling and temperature regulation are not necessary. For unloading, much depends on whether perishables are moving via freighter or as belly cargo on a passenger flight. Freighters are able to park and unload on hardstands directly adjacent to cargo facilities. Passenger flights typically park and are unloaded at the passenger terminal, which can add upwards of 15 minutes in drayage time (and expense). More importantly, the integrity of the cool chain is at greater risk, as perishable cargo spends extra time on the ramp. In summer this can be problematic, requiring extra measures that increase costs. Generally, passenger flights are unloaded by a ramp/aircraft handler, not the cargo handler primarily responsible for its integrity. For dry cargo this is not a problem, but for perishables this split accountability adds risk to the process.

Unloading: Best Practices
Best practices for unloading perishables from passenger flights include:

- Proactive use of thermal blankets on all pallets during the warmest months and times of day;
- Perishable center/cargo facility personnel dispatched to ramp to monitor unloading and to identify potential problems before it is too late;
- More frequent use and monitoring of temperature tags.

Best practices from freighters:

- The standards for unloading a freighter are very rapid – as little as 2 minutes from plane to temperature-controlled terminal, and 30 minutes to completely unload a 767F and have all pallets safely within a perishable facility.
Doing It Right

The efficient flow of perishable cargo is the sign of a well-run facility.

Cargo Terminal & Perishable Center
Once cargo has been unloaded and brought into the cargo terminal, there are several functions that occur within its confines:

- Pre-inspection: a) pallet breakdown, staging and storage, b) identification of cargo requiring pre-cooling
- Inspection
- Preparation for ground transport.

The efficient flow of perishable cargo through these steps is the sign of a well-run facility.

Cargo Terminal & Perishable Center: Best Practices
Pre-Inspection best practices include:

- Cargo pallet breakdown and staging occurring in a temperature-controlled environment.
- Establishment of performance standards for moving cargo through the terminal. In one case, the target was for cargo to be ready for inspection within 4 hours of its arrival.
- Segregation of commodities: managing a perishables facility also requires ensuring that product is not contaminated by proximity to other perishables. For example, seafood cannot be stored for any length of time with other perishables due to odor contamination; apples and bananas cannot be stored with flowers as the ethylene gas emissions from fruits can have decomposing effects on flowers.
- Monitoring of temperature upon arrival in terminal, and where necessary, use of pre-coolers to maximize the integrity of the cold chain. This is a commodity-specific determination. Locations where floral & foliage imports are frequent have a standing rule to run all shipments through pre-cooling.
- To manage and measure performance, an information system (WMS) to monitor airway bills as they are processed, identifying those requiring attention in order to achieve standards.
- Documenting problems: forklifts equipped with i-pads are used to monitor the location of shipments in the terminal and to take pictures of potential problems as soon as they are discovered.
Inspection
Federal inspectors, notified in advance of what is on-board incoming flights, identify which cargo they will be inspecting. It is the responsibility of the cargo terminal/perishable center to have samples of the products slated for inspection ready when inspectors arrive. To perform this function up to standards requires close coordination with inspection agencies and the ability to control the flow of cargo through the terminal efficiently and to locate it quickly.

Inspection: Best Practices
Best practices in the area of inspection include:

- In one instance all federal agencies – CBP, USDA and others – were co-located in the same facility, adjacent to the on-airport perishable center and the designated cargo center. This fostered a closer coordination of the inspection effort and was well-received by airport cargo managers, as it promoted a one-stop capability for inspections and problem resolution.

- Coordination between airport, cargo/perishable centers and federal agencies led to a cooperative arrangement whereby Federal inspectors’ daily work schedules are adjusted during peak times to coincide with cargo aircraft arrivals, avoiding the necessity of paying expensive overtime.

Access equals efficiency.

Ground Transport
After inspection is accomplished, the goal is to arrange for perishable cargo to be picked up by the importer or a designated third party – a trucker, broker, forwarder or wholesaler. In some instances, perishables are moved in-bond to an off-airport facility, either for longer-term remediation, fumigation, etc. or to maintain the cold chain in cases where the on-airport cargo facility lacks the capability to do so.

Inspection may also occur at these off-airport locations. What is described in this summary is the normal sequence of functions, but exceptions are not uncommon.

Ground Transport: Best Practice
The best practices for ground transit providers relate to the quantity of similar products being transported and achieving economies of scale for full refrigerated trailer loads:

- One operation’s WMS provides updates to a shipment’s progress via a website where drivers can check on the status of their cargo to determine when it will be ready for ground transit pick-up. This helps to reduce wait times by enabling drivers to time their arrival more closely to the freight’s availability, in turn relieving truck congestion at the facility and further reducing wait times.

- As a continuation of the handling process, the ideal situation is for the importers and/or their agents to pick up a full trailer of product and deliver it to the end customer directly from the airline. This reduces the necessity for intermediary consolidation, minimizing the number of touch points for the cargo and enabling the customer to receive their product more quickly.

- Easy access to the on-airport cargo operations area is also crucial. Airports with easy access to unrestricted highways and a large, expansive area for truck operations facilitate streamlined ground transport.
A Common Theme

Connectedness as a key to success.

Communications And Information Technology

There are two themes that have been touched on throughout this discussion of perishable handling operations, and which are critical to its success. The first of these is communications, specifically the use of information technology. The importance of info tech is immense:

- Measure and evaluate operations and set standards for performance.
- Manage traffic flow through the cargo terminal, tracking precisely where a pallet or shipment is and identifying those shipments which are behind schedule. This enables management to ascertain where and how to allocate resources to ensure quality standards.
- Coordinate various activities of various parties and activities occurring within the cargo facility - break-down; storage; re-packing and pre-cooling (where necessary); inspection and preparation of clearance documents.
- Information technology is also used to link all external parties to the transaction: growers, forwarders, wholesalers, importers, airlines - informing them via e-mail or other notification of shipment status milestones, periodic temperature readings (vital in pharmaceutical transport), product condition, etc.
- Establish and maintain a database of records to facilitate claims filing and adjudication.
A Common Goal

Collaboration produces positive results.

Relationships

The second over-arching theme implicit in this discussion is the interdependence of a variety of actors in the process on each other to not only perform with excellence, but to act proactively and inform others promptly when problems or deviations from standard procedures arise. To accomplish this on a continuing basis requires establishing a close working relationship, even between agents whose mission may seem at first glance to be in opposition – such as between federal inspectors, perishable centers and their customers. Building such a relationship requires more than lip service – it requires years of painstaking effort and trust-building. It requires identification of common interests and ‘win-win’ propositions, and the resolve to work through differences in a spirit of collaboration and collegiality.

Finally, locations where this kind of collaboration exists and where perishable importation works best need to be aggressive in marketing themselves. A number of airport authorities are well versed in this, and others are seeking to emulate their success. The need for collaboration and working toward a common goal extends even into this role, and is most likely to succeed when all parties involved are working together.

About The Colography Group, Inc.

Enabling clients to remain competitive.

Actionable Market Research

In its 31st year, The Colography Group delivers primary research, strategic planning and new program development services to businesses looking to identify and capitalize on growth opportunities in the global time-definite, or expedited, cargo market. Its suite of proprietary databases is based on information gained from detailed interviews with hundreds of thousands of shipping decision makers. Through this statistically representative interview sample, The Colography Group extracts the market intelligence clients need to effectively plan their transportation strategies. The Colography Group is based in Atlanta, GA.

For more information on The Colography Group, visit www.colography.com.